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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/339,958	06/25/1999	ROBERT T. RASMUSSEN	2146-4	3281

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NIXON & VANDERHYE, PC  
1100 N GLEBE ROAD  
8TH FLOOR  
ARLINGTON, VA 22201-4714

EXAMINER

QUARTERMAN, KEVIN J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/339,958

Applicant(s)

RASMUSSEN, ROBERT T.

Examiner

Kevin Quarterman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-10,12-14,29 and 31-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-14,29 and 31-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's Amendment B, filed 17 July 2003, has been entered.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 34-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Cathey (US 6255772).
4. Regarding newly added independent claim 34, Figure 3 of Cathey shows a flat panel field emission display comprising a screen (306) comprising a phosphor coating (320) arranged to provide different color segments, and a matrix of anode electrodes (308), an emission source (310) opposite the screen; a black matrix (322) provided on the screen, the black matrix being formed from a substantially insulating material (col. 9, ln. 14-17), and an anode switching scheme for driving the display.
5. Regarding newly added claim 35, Cathey discloses the phosphor coating comprising non-luminescent conductive material (col. 3, ln. 24-25).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-10, 12-14, 29, 31-33, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cathey (US 6255772) in view of Rasmussen (US 5762773).

8. Regarding independent claim 1, Figure 3 of Cathey shows a screen (306) having a phosphor coating (320); an emission source (204) opposite the screen, which selectively excites portions of the phosphor coating to generate visible light; and a black matrix (322) provided on the screen.

9. Cathey discloses the claimed limitations, as discussed earlier, but fails to exemplify the black matrix being formed of praseodymium-manganese oxide. Cathey does disclose that the black matrix may be formed of any suitable material and should not be affected by electron bombardment (col. 9, ln. 14-17).

10. Figures 1-5 of Rasmussen teach that it is known in the art to provide field emission displays with a black matrix (16) on the screen being formed of material including praseodymium-manganese oxide (col. 5, ln. 33) for producing high-resolution displays.

11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a black matrix of praseodymium-manganese

oxide, as taught by Rasmussen, in the display device of Cathey for improving the image quality of the display.

12. Regarding claim 3, Figure 3 of primary reference Cathey shows the emission source including an array of field emitter tip cathodes (310).

13. Regarding claim 4, Figure 3 of primary reference Cathey shows the emission source including a low potential extraction grid (304) that is provided adjacent the field emitter tip cathodes.

14. Regarding claim 5, Figure 3 of primary reference Cathey shows the array of field emitter tips being formed in a matrix addressable by row select control signals.

15. Regarding claim 6, primary reference Cathey disclose that the extraction grid may be formed as a continuous layer or as parallel strips, and the field emitter tip matrix is also addressable by column select control signals (col. 2, ln. 40-55).

16. Regarding claim 7, Figure 3 of primary reference Cathey shows the extraction structure including a plurality of column electrodes (204) addressable by column select signals.

17. Regarding claim 8, Figure 3 of primary reference Cathey shows a matrix of anode electrodes (308). Cathey also disclose that a field-emission device has one or more voltage sources that maintain emitter tips at potential lower than the extraction grid.

18. Regarding claim 9, Cathey disclose that the black matrix is provided for defining the discrete pixel areas of the display, which would improve the image contrast (col. 3, ln. 15-18).

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19. Regarding independent claim 10, Figure 3 of Cathey shows a flat panel field emission display comprising a faceplate including a screen (306), phosphors (320) provided on the screen, and a black matrix (322) provided on the screen; a baseplate assembly (202) including a plurality of electron emission cathode tips (310) arranged in an array and a low potential extraction grid (304).

20. Cathey discloses the claimed limitations, as discussed earlier, but fails to exemplify the black matrix being formed of  $\text{PrMnO}_3$ . Cathey does disclose that the black matrix may be formed of any suitable material and should not be affected by electron bombardment (col. 9, ln. 14-17).

21. Figures 1-5 of Rasmussen teach that it is known in the art to provide field emission displays with a black matrix (16) on the screen being formed of material including praseodymium-manganese oxide (col. 5, ln. 33) for producing high-resolution displays.

22. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a black matrix of praseodymium-manganese oxide, as taught by Rasmussen, in the display device of Cathey for improving the image quality of the display.

23. Regarding claim 12, primary reference Cathey disclose that the extraction grid may be formed as a continuous layer or as parallel strips, and the field emitter tip matrix is also addressable by column select control signals (col. 2, ln. 40-55).

24. Regarding claim 13, Figure 3 of primary reference Cathey shows the extraction structure including a plurality of column electrodes (204) addressable by column select signals.

25. Regarding claim 14, Figure 3 of primary reference Cathey shows a matrix of anode electrodes (308). Cathey also disclose that a field-emission device has one or more voltage sources that maintain emitter tips at potential lower than the extraction grid.

26. Regarding claims 29 and 31, Cathey and Rasmussen fail to exemplify the particles of the  $\text{PrMnO}_3$  having an average size of  $2\mu\text{m}$ .

27. It would have been obvious to one having ordinary skill in the art to provide the particles of  $\text{PrMnO}_3$  having an average size of  $2\mu\text{m}$ , since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

28. Regarding newly added claims 32-33, primary reference Cathey discloses the phosphor coating comprising non-luminescent conductive material (col. 3, ln. 24-25).

29. Regarding newly added claim 36, Cathey discloses the claimed limitations, as discussed earlier, but fails to exemplify the black matrix being formed of  $\text{PrMnO}_3$ .

Cathey does disclose that the black matrix may be formed of any suitable material and should not be affected by electron bombardment (col. 9, ln. 14-17).

30. Figures 1-5 of Rasmussen teach that it is known in the art to provide field emission displays with a black matrix (16) on the screen being formed of material

including praseodymium-manganese oxide (col. 5, ln. 33) for producing high-resolution displays.

31. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a black matrix of praseodymium-manganese oxide, as taught by Rasmussen, in the display device of Cathey for improving the image quality of the display.

### ***Response to Arguments***

32. Applicant's arguments filed 17 July 2003 have been fully considered but they are not persuasive.

33. In response to applicant's argument that the applied references do not disclose using praseodymium-manganese oxide of high resistance for a black matrix, the Examiner holds that the primary reference to Cathey discloses a black matrix of high resistance, as described earlier. Cathey simply does not exemplify praseodymium-manganese oxide as the material for the black matrix, wherein the secondary reference to Rasmussen does.

### ***Conclusion***

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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35. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
October 1, 2003

  
for Nimesh Patel  
Supervisory Patent Examiner  
Art Unit 2879